MATH 291
Calculus II

Course description: Integrals with applications, techniques of integration, indeterminate forms, improper integrals, infinite series, Taylor's formula.

Prerequisites: MATH 190, or permission of department head.

Text: *Essential Calculus* by James Stewart, Thomson-Brooks-Cole.

Calculator: The *Casio 9750G Plus* will be used for classroom demonstrations. It is recommended that you check with the instructor before using a calculator other than the *Casio 9750G Plus* for this class. Some testing will be conducted without the use of the calculator.

For details about **your** instructor's contact information, office hours, and policies, go to http://www.faculty.mcneese.edu/ and access your instructor's website.

Objectives

The student will be able to

- consider the "area problem" and formulate an approach, in terms of limits, to solving the problem;
- demonstrate knowledge of the definition of the definite integral;
- demonstrate knowledge of the Fundamental Theorem of Calculus and the importance of this theorem in connecting Differential and Integral Calculus;
- apply integration techniques to compute areas of regions, volumes of solids, work, and average values of functions;
- demonstrate knowledge of integration techniques including integration by parts, trigonometric substitution, and integration of rational functions using partial fraction decomposition;
- use tables and technology (including use of calculators and Maple) to compute integrals;
- compute improper integrals;
- find the limit of certain sequences and the value of selected series;
- classify series according to type and determine convergence or divergence using tests including the integral test, comparison test, alternating series test, ratio and root tests;
- represent functions as power series and use these representations to compute integrals;
- demonstrate knowledge of Taylor series.

Course material

Course material will include the following topics:

TOPIC	CHPT.	SECTIONS	APPROX. TIME
Areas, integrals, the Fundamental Theorem	Ch. 5	1–5	~ 3 weeks

of Calculus, substitution

Integration techniques: parts, partial fractions,   Ch. 6   1–3, 6   ~ 3 weeks
    tables, substitutions; improper integrals

Applications of integration, work, volume,   Ch. 7   1–5   ~ 3 weeks
    average value of a function

Sequences, series, power series, Taylor series   Ch. 8   1–7   ~ 4 weeks

Assessment

The Semester score for the course will be calculated by using the weights (%) indicated below:

WEIGHT (%)

75%	Semester average	Tests	_____	%
		Assignments	_____	%
		_____	_____	%
25%	Final exam grade			

The Semester letter grade in the course will be assigned according to the scale below:

SEMESTER GRADE	SEMESTER SCORE
90–100	A
80–89	B
70–79	C
60–69	D
0–59	F

Notes:

1. In cases of an **excused** absence, the instructor reserves the right to reweight the final exam in lieu of a make-up test.
2. In the case where a student's score on his final exam indicates **exceptional achievement** above and beyond that indicated by the semester average, the instructor reserves the right to reweight the value of the final exam in computing the semester grade.

Please read the Department's Attendance Policy.

Instructor's office hours can be found on the MSU web site at
    http://www.faculty.mcneese.edu/
Click on individual instructor to view their web page. Or navigate from MSU Home Page; select *Faculty & Staff*, select *Faculty Web Server*.

Students should visit the MSU web page at
    http://www.mcneese.edu/policy/diversity.htm
for information about diversity awareness and sexual harassment policies and procedures, as well as the Americans with Disabilities Act.

Students should also visit the MSU web page at
    http://www.mcneese.edu/integrity
for information on the Academic Integrity Policy.

ANY STUDENT WITH A DISABILITY IS ENCOURAGED TO CONTACT THE OFFICE OF SERVICES FOR STUDENTS WITH DISABILITIES IN DREW HALL, ROOM 200, VOICE (337) 475-5916, HEARING IMPAIRED (337) 475-5722. IT IS EACH STUDENT'S RESPONSIBILITY TO REGISTER WITH THE OFFICE OF SERVICES FOR STUDENTS WITH DISABILITIES WHEN REQUESTING A REASONABLE ACCOMMODATION.

One week of summer school is equivalent to 2 ½ weeks of Fall or Spring classes

DMCS
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